ARDC

Department of Energy
Idaho Operations Office
850 Energy Drive
Idaho Falls, Idaho 83401-1563

August 27, 2001

Mr. Wayne Pierre, Team Leader
Environmental Cleanup Office
U. S. Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, WA 98101

Mr. Dean Nygard, Site Remediation Manager
Idaho Department of Environmental Quality
Community Services
1410 N. Hilton
Boise, ID 83706

SUBJECT: Path Forward for the Operable Unit 7-13/14 In Situ Grouting Treatability Study – (EM-ER-01-142)

REFERENCE: *Surrogate Pits for the Operable Unit 7-13/14 In Situ Grouting and In Situ Vitrification Treatability Studies;* INEEL/EXT-2000-00819, EDF-ER-199, dated July 2000

Dear Messrs. Pierre and Mr. Nygard:

The purpose of this correspondence is to notify you about changes to the scope and schedule of the in situ grouting (ISG) treatability study to be conducted in support of the Operable Unit 7-13/14 remedial investigation/feasibility study (RI/FS). In addition, this letter serves as notification that we intend to expand the previous scope of the ISG treatability study by using the existing in situ vitrification (ISV) pit in support of a modified ISG treatability study. The major schedule milestones are identified below. Efforts to accelerate the identified schedule are being pursued.

- Submit revisions to ISG test plan for information by September 24, 2001
- Grout emplacement in the ISG test pit October 10, 2001, through October 18, 2001
- Grout emplacement in the ISV test pit October 31, 2001, through November 5, 2001
- Post-grouting monolith evaluation in the ISG test pit (including excavation) November 7, 2001, through December 13, 2001
- Post-grouting monolith evaluation ISV test pit (including excavation)—to-be-determined based on weather conditions (deferral to Spring of 2002 may be necessary depending on weather conditions).

The U.S. Department of Energy Idaho Operations Office (DOE-ID) now intends to perform ISG testing in the ISV pit located in the Cold Test Pit North Area to accomplish test objectives in addition to those documented in the ISG Test Plan. A number of alternatives for use of the ISV

test pit were evaluated and it was determined that ISG testing would support the evaluation of ISG for the OU 7-13/14 RI/FS and could be conducted in the available ISV pit.

A revision to the ISG Test Plan to reflect the modified work scope and objectives is being prepared prior to implementation of the ISG testing activities. The revision consists of modified sections rather than revision and reissue of the entire document. Upon completion, the revisions to the ISG Test Plan will be provided to you for information.

The basic characteristics of the ISG and ISV test pits, including pit dimensions and a summary of pit contents are defined in Table 1. As the table shows, the simulated waste forms in the test pits include a number of solid waste forms such as debris items, simulated inorganic sludge, organic sludge, and nitrate sludge. A summary of the current ISG objectives, reflecting grouting of the ISV pit, is provided in the table. Additional information on the ISG and ISV test pits can be referenced through the review of previously submitted documents, the ISG Test Plan and an engineering design file previously provided. A map showing the ISG and ISV test pit locations just outside of the Radioactive Waste Management Complex boundaries is provided in Figure 1.

We are notifying you of these activities to (1) ensure that all parties to the FFA/CO are apprised of WAG 7 work activities prior to implementation and (2) to provide for the identification of any future regulatory compliance issues. The basic approach to management of the ISG and ISV test pits and residuals was previously documented in the ISG, and ISV Test Plans, as well as the above referenced document. As stated in these documents, once testing is completed, the test pit contents will be excavated and disposed of. It is anticipated that the grouted residuals will be disposed of as conditional industrial waste at the Idaho National Engineering and Environmental Laboratory Landfill Complex.

As you are aware, the work scope discussed above is not consistent with the 1998 Addendum to the Operable Unit 7-13/14 RI/FS Work Plan. To address this work scope modification, advanced approval from you of the work scope changes discussed in this letter is requested. It is suggested that any necessary clarifications about the work scope changes be addressed through weekly OU 7-13/14 teleconferences. However, for final agency concurrence on these important matters, we request documentation through written agency response.

If you have questions regarding this correspondence, please call me at (208) 526-4392, or Kevin C. O'Neill at (208) 526-5455.

Sincerely,

Kathleen E Hain

Kathleen E. Hain, Director
Environmental Restoration Program

Enclosure

cc: R. Poeton, EPA
D. Koch, IDHW

Table 1. Summary of proposed in situ grouting test sites at the Cold Test Pit North and Cold Test Pit South areas

Test Pit/Location	Dimensions (ft)	Excavated Volume (ft^3)	Contents[b]	Status/Objectives
In situ vitrification (ISV) pit Cold Test Pit North[a]	18 x 18 x 21.5 Main Pit 4 x 16 x 11.5 Oxidizer Trench[a]	6,966 736	Debris—concrete, asphalt, paper, wood, scrap metal, cloth, plastic, paper, graphite Inorganic sludge—water, Portland cement, Idaho National Engineering and Environmental Laboratory (INEEL) soil, sodium nitrate, calcium carbonate, calcium hydroxide, calcium nitrate, and sodium hydrogen phosphate Organic sludge—Texas Regal oil, Microcell-E, and Oil-Dri absorbent Nitrate sludge[c]—sodium nitrate, potassium nitrate, sodium sulfate and sodium chloride) Terbium oxide added as a nonradioactive tracer.	Constructed August 2000. The ISV test was cancelled in April 2001. The pit is currently intended for use as a grouting site in October 2001. Objectives: See the ISG Test Plan[d] for supported objectives, critical and noncritical: 3, 5, 6, 7, 8, 9, C, and D. General benefit: added data in support of these objectives increases the statistical validity of the test results. Additional objectives: 1) potential effects of gas cylinder penetration during drilling, 2) effects of high concentrations of organic sources on grout returns, and 3) field application of second ISG treatability study grout product
In situ grouting (ISG) pit Cold Test Pit South	15 x 15 x 13	2,925	Debris—concrete, asphalt, scrap metal, tubing, piping, cloth, plastic, paper, wood Inorganic sludge—water, Portland cement, INEEL soil, sodium nitrate Organic sludge—Texas Regal Oil, Microcell-E, and kitty litter Nitrate sludge[c]—sodium nitrate, potassium nitrate, sodium sulfate and sodium chloride Terbium oxide added as a nonradioactive tracer.	Constructed in August 2000. ISG testing was deferred in April 2001. Grouting is now planned for October 2001. Objectives: See the ISG Test Plan[d] for supported objectives, critical and noncritical.

a. See the "Test Plan for Operable Unit 7-13/14 Nonradioactive Field-Scale In Situ Vitrification of Simulated Buried Waste (Draft)" (submitted in reference d) for specific test pit details. The oxidizer trench is adjacent to and perpendicular (centered) with the main ISV test pit. The 11.5-ft depth includes 7 ft of overburden soil. As noted in the table, the "ISV pit" is now proposed for an expanded grouting test.
b. The majority of simulated waste items are containerized in cardboard and wooden boxes and metal drums (generally 55-gal drums).
c. Nitrate sludge includes approximately 60% sodium nitrate, 30% potassium nitrate, 5% sodium sulfate, and 5% sodium chloride (wt%). The ISV pit contains 15 metal drums of nitrate sludge. The ISG pit contains five drums of nitrate sludge.
d. See the *Implementation Test and Field Test Plan for the Operable Unit 7-13/14 In Situ Grouting Treatability Study* (submitted in reference a) for specific test pit details.

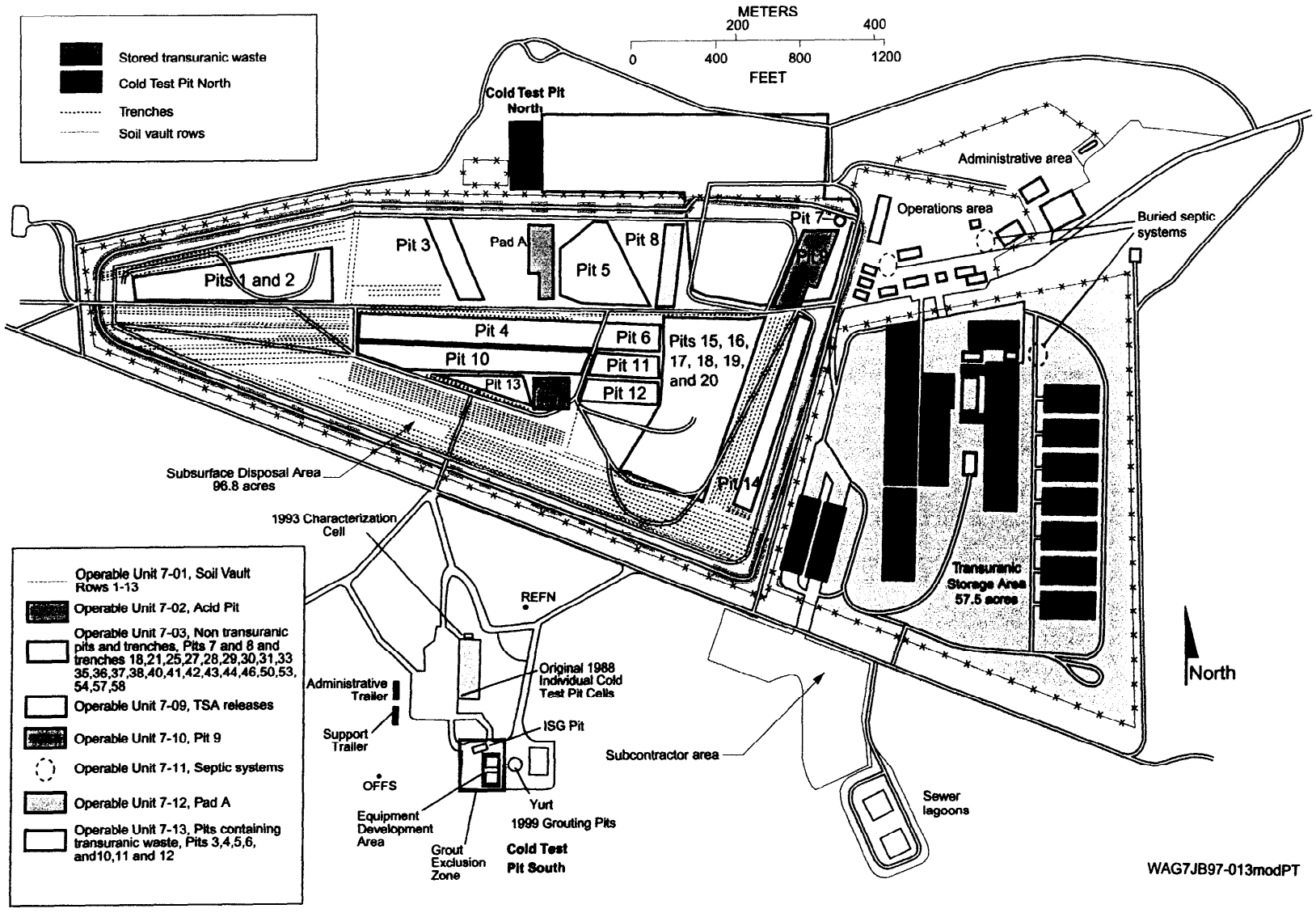

Figure 1. Map of the Radioactive Waste Management Complex showing the Cold Test Pit South and Cold Test Pit North